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GUY'S HOSPITAL.

A CASE OF

PNEUMO-BACILLARY CONJUNCTIVITIS

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UNDER THE CARE OF DR. BRAILEY.



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A CASE OF PNEUMO-BACILLARY CONJUNCTIVITIS.

(Under the care of Dr. BRAILEY.)

IN the following case of conjunctivitis the pneumo-bacillus of Friedländer, which was present in the conjunctival sac, appeared to have a causal, and not merely an accidental, relationship to the lesion. For the notes of this case we are indebted to Dr. J. Eyre.

The patient, a feeble old man, aged sixty years, presented himself at the out-patient department complaining of pain, constant watering of the eyes, and failing sight, the symptoms dating from six months previously, when the eyes were very "blood-shot" and a purulent discharge was present. On examination there was found to be considerable injection of the vessels of the palpebral conjunctiva and to a less extent of the bulbar conjunctiva; a certain amount of photophobia and very obvious lacrymation were also noted—in fact, all the appearances were those of a simple chronic conjunctivitis. When, however, the caruncle was examined its surface was found to be hidden by a thick,

viscid, shining, white film, which could easily be removed piecemeal, having no very intimate attachment. The actual surface of the caruncle, when exposed, appeared to be somewhat hyperæmic, but not raw or bleeding; the follicles of this body were also found to contain a similar material, which could be expressed by squeezing the caruncle between the points of a pair of forceps. The affection was bilateral. Vision in each eye = $\frac{6}{8}$, with + 0.5 D. sph. = $\frac{6}{8}$, and with + 5 D. sph. the patient read J. 1 at a distance of eleven inches. Treatment appeared to have no effect upon this case, and although the patient was under observation for about two months the conjunctivitis showed no definite improvement. The "pseudo-membrane" invariably re-formed within twenty-four hours of removal. Lotions of boric acid were useless; those of perchloride of mercury, 1 in 5000, were not followed by any obvious benefit. The film was removed from the caruncle, and the surface of this latter painted with 1 per cent., and subsequently with 2 per cent., solutions of the perchloride of mercury, with the result that the formation of the viscid layer was delayed for forty-eight hours, whilst the effect of 1, 2, and 3 per cent. solutions of nitrate of silver was equally transient.

Remarks by Dr. EYRE.—As regards the bacteriological aspect of the case the microscopical examination of the "pseudo-membrane" removed from the caruncle showed that it was simply a mass of degenerated epithelial cells, desquamated from the surface of the conjunctiva, with a few granular leucocytes. In, upon, and between the squamous cells were seen large numbers of short, oval bacilli, either single or arranged in pairs as

diplo-bacilli (in this latter case the individual bacilli were often so short that the organism simulated a diplococcus), which did not retain their stain when treated by Gram's method. No capsule could be demonstrated. Cover-slip smear preparations made direct from the conjunctival secretion showed a precisely similar bacillus in enormous numbers; no other micro-organisms could be detected. Cultivations were made from the secretion contained in the conjunctival sac and also from the material removed from the surface of the caruncle, on blood serum and on agar-agar. After twenty-four hours' incubation at 37.5° C. all the tubes were found to contain a growth which consisted of a pure culture of a non-motile, pleomorphic bacillus not staining by Gram's method. Sub-cultivations on various media demonstrated the following biological characters:—1. On agar (streak) at twenty-four hours a shining, opaque white, viscid layer formed, exhibiting a pearly lustre; the growth tended to spread from the needle track outwards to the edges of the nutrient surface. 2. On inspissated blood serum the growth was as on agar, but more luxuriant and rapid. 3. On gelatin (stab) a typical "nail" growth was produced; the head, elevated and spherical, soon became yellowish and porcelain-like in appearance, whilst the needle track in the depths of the gelatin was occupied by numerous small, spherical, discrete yellowish colonies. No liquefaction of the medium took place. 4. On gelatin (shake) an abundant evolution of gas took place. 5. In litmus milk a good growth took place, accompanied by the production of an acid reaction; coagulation of the casein was accomplished in from three to five days. 6. On potato a thick, yellowish-brown, viscid layer rapidly made its appearance, the colour deepening with age. Numerous bubbles of gas were seen to be entangled in the

growth. From a consideration of these properties it seemed most probable that we were dealing with the pneumo-bacillus of Friedländer, and in order to confirm this opinion a small quantity of a twenty-four hours old agar culture was removed from the tube with a platinum spatula and introduced into the subcutaneous tissue at the root of the tail of a mouse weighing 20 grammes. Death ensued in forty-eight hours, and at the post-mortem examination the heart-blood was found to be crowded with the capsulated Friedländer's bacillus. On several subsequent occasions cultures were made from the conjunctival secretion and from the material on the caruncle, with precisely similar results. Some of the actual material removed from the caruncle was also inoculated into the subcutaneous tissues of another mouse. Death followed in three days, and the Friedländer's bacillus was recovered from the heart-blood.

I am indebted to Dr. Brailey for permission to publish the notes of the case.

